California Monthly Climate Summary
April 2009

Weather Highlights

April 2009 was a relatively cool, dry month. According to the Western Region Climate Center's California Climate Tracker, the monthly average temperature was 52.6°F which is 0.1°F lower than the long-term average of 52.7°F. With a statewide average of 0.50 inches, precipitation for April was only 30% of the long term average.

April's weather was a wide ranging mixture of events. The month started with dry mild weather that gave way to showers along the North Coast and northern mountains. As the cold front moved into the Great Basin, a high pressure system on its heels led to gusty wind conditions and offshore flow for southern California. The second week of April saw the main pulse of precipitation for the month across most areas of the state. Heaviest rains were found in the central part of the state extending from the coast to the Sierra Nevada. In the third week, a high pressure system developed that led to record high temperatures in many parts of the state. Many long-standing records were broken by several degrees during this period of hot weather. The high pressure system broke down by the middle of the following week and the month closed out with cool, dry conditions.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 189 temperature records tied or broken and 1precipitation record tied or broken for the month. Of the 189 temperature records, 148 were for new high maximum temperatures. Records were set over 12 days of the month including six consecutive days from April 17th through April 22nd. Sacramento Executive Airport set the only daily precipitation record for the month. The 0.77 inches that fell on April 9th beat the 0.76 inches that fell back in 1965. A lot of long-standing records fell in April 2009. On April 5, Lancaster set a new low minimum temperature record with a reading of 24°F breaking the old record of 32°F set in 1970 This also broke the coldest April reading of 25°F set on April 2nd, 1975. At the other extreme, San Diego's Lindbergh field tied a monthly high temperature record on April 20th with a reading of 98°F. This reading broke the old daily record of 93°F set 110 years ago in 1899. This comes one day after Lindbergh field ASSOS station recorded a high temperature of 91°F which broke the old record of 85°F set back in 1914. On the 19th downtown Los Angeles also broke a 1914 high temperature record of 92°F with a reading of 94°F. On April 21st, Santa Maria reached 95°F which broke the old record of 90°F set back in 1918. King City reached 104°F on April 21 breaking the old record of 96°F set in 1910. And up in Ukiah, April 21st reached 97°F which tied the daily maximum record set in 1931.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 178 stations recorded a minimum temperature below freezing in April. Eighteen stations reached or exceeded 100°F at least once during the month. Statewide extremes from the CDEC network of temperature gages are shown below. Also shown are the monthly average extremes from the CIMIS network. A table of

regional average minimum, mean, and maximum temperatures from the CDEC and CIMIS networks is also shown.

Precipitation in April fell short of average across the state. The largest amount of precipitation recorded in the CDEC precipitation gages for April 2009 was Mountain Home in the Tulare Basin (Tule River) with 3.41 inches. This is only 73% of the average precipitation for this station for April. At the other end of the spectrum, six stations recorded no precipitation for the month. For the CIMIS network, Five Points in Fresno County topped the precipitation charts with 4.01 inches for the month and fourteen stations recorded no precipitation. Some CIMIS gages may show large precipitation totals if the gages are not covered during irrigation activities so care should be given to review precipitation data used from this network. The 8-Station Index for northern California precipitation recorded only 1.6 inches in April with 13 days showing precipitation. On average 3.9 inches of precipitation is recorded for the 8-Station index. Statewide, the average precipitation for April was 38% of the long-term average based on the California Data Exchange Center (CDEC) gages. Precipitation percentages by region from the CDEC gages are shown in a table at the end of this document.

In October 2008, California joined the Community Collaborative Rain, Hail and Snow Network (CoCoRaHS). This group uses citizen volunteers to record rain, hail and snow data. The users enter the data online at the CoCoRaHS web site. The web site provides the opportunity to see spatial detail of rain and snow patterns in participating states. By the end of April 2009, California has had more than 500 volunteers sign up spanning 48 of California's 58 counties. The county with the most volunteers at the end of April is Sonoma with 80 volunteers.

Drought Monitor and Seasonal Outlook

For April, the Drought Monitor showed expansion of severe drought through the Central Valley as April's precipitation fell short. The maps for California for March 31, 2009 and April 28, 2009 are shown below. The Drought Monitor maps can be found on the National Drought Mitigation Center's (NDMC) website http://drought.unl.edu/dm/. These maps are largely a reflection of precipitation and soil moisture deficit estimates. The very northwest and southeast parts of the state are not considered in any drought condition. As of the April 28th depiction, the rest of California is depicted in either D0 (abnormally dry), D1 (moderate drought) conditions, or D2 (severe drought) conditions. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for May through July from NOAA depicts California with persisting drought conditions across most of the state. Updates are provided twice per month. Maps and information can be found at http://cdec.water.ca.gov/water_supply.html

Snowpack and Water Supply Conditions

The snowpack at the beginning of May was about 63% of average for the date with 14 inches of snow water content. Statewide, the April through July runoff forecast is

slightly above 70% of average. April through July runoff forecasts can be found in the Department's Bulletin 120. Water year runoff is lower, around 66%, due primarily to the dry January. Outlooks for the water year 2009 water supply index categories are dry for both the Sacramento Basin and the San Joaquin Basin. Water supply information for California can be found at http://cdec.water.ca.gov/water_supply.html. A historical listing of water year categories for both basins can be found at http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST.

The snow covered area reports from the University of California, Merced are back for 2009. The reports utilize MODIS data to document the extent of the seasonal snowpack and provide snow information for select elevation bands in select watersheds. The reports can be found on the State Climatologist website under the climate data and information link under the Agency and Academic Research Collaborative tab.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is being classified as an ENSO neutral pattern. Equatorial sea surface temperature anomalies for the tropical Pacific for April ranged from 0.0°C in the Niño 3.4 region to 0.4°C for the Niño 1+2 region. The February through April 3-month running mean of the Ocean Niño Index is -0.5 which is the 4th consecutive 3-month running mean value to be below the threshold value of -0.5°C. Five consecutive values need to be below the threshold for conditions to be classified as a La Niña event. Both statistical and dynamical models forecast the tropical sea surface temperatures to vary near normal (-0.5°C to 0.5°C) for the remainder of 2009. More information can be found at the Climate Prediction Center's web site: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ Updates are posted weekly. The latest three month outlook (May through July) from NOAA indicates above normal temperatures for most of the state. Equal chances of above, below, or normal temperatures are forecast for most of the coastal regions of California with the exception of the far north coast which is forecast to have below normal temperatures. For precipitation, below average conditions are forecast for the northeastern corner of the state and equal chances for the rest of the state. Outlook plots and discussions can be fount at http://www.wrcc.dri.edu/longrang/. General weather information of interest can be found at http://www.noaawatch.gov/. For anomaly information please see http://www.wrcc.dri.edu/anom/cal_anom.html.

Agricultural Data

April's agricultural activity ranged from planting to harvest. Citrus harvest continued while asparagus, leaf lettuce, broccoli, carrots, onions, garlic, and potato harvests began. New blueberry bushes were planted as were plantings for mixed summer vegetables, melons, zucchini, squash, cucumber, corn, and cotton. Rice fields were being prepared for planting. Safflower and grape vines emerged during the month. Pistachio trees leafed out while olive, pomegranate, pear, prune, apricot, cherry and apple trees bloomed. Freeze damage was confirmed in almond orchards. Walnut orchards were treated for blight. Rangeland conditions started the month in the fair to good range but degraded to fair to poor by the end of the month due to lack of

precipitation. Beef cattle in Merced county continued to receive supplemental feeding and some dryland grain fields in the San Joaquin Valley suffered from the lack of rain. For further crop information see http://www.nass.usda.gov/index.asp.

Other Climate Summaries

California Climate Tracker (new product of Western Region Climate Center)
Golden Gate Weather Service Climate Summary
NOAA Monthly State of the Climate Report

Statewide Extremes (CDEC)

High Temperature – 110°F (Buttercup, Colorado River Desert)
Low Temperature – -19°F (Casa Vieja Meadows, Tulare)
High Precipitation – 3.41 inches (Mountain Home, Tulare)
Low Precipitation – 0 inches (6 Stations)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 87.4^0F (Salton Sea East, Imperial County)
Low Average Minimum Temperature – 25^0F (Big Bear Lake, San Bernardino County)
High Precipitation – 4.01 inches (Five Points, Fresno County)
Low Precipitation – 0 inches (14 stations)

Statewide Precipitation Statistics

Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Apr	Oct-Apr	Stations	Apr	Oct-Apr	Apr	Oct-Apr
North Coast	0.27	5	5	5	17	9	9	30.0%	71%
SF Bay	0.03	3	3	3	6	6	6	37.6%	90%
Central Coast	0.06	5	4	4	10	7	7	21.3%	77%
South Coast	0.06	5	5	5	15	13	11	6.9%	63%
Sacramento River	0.26	10	10	10	43	32	31	55.2%	83%
San Joaquin River	0.12	8	7	7	27	22	22	53.6%	85%
Tulare Lake	0.07	5	5	5	27	27	26	51.7%	77%
North Lahontan	0.04	6	6	6	14	12	11	54.5%	70%
South Lahontan	0.06	5	3	2	14	7	6	2.5%	101%
Colorado River	0.03	2	2	2	6	3	3	0.0%	86%
Statewide Weighted Average	1	54	50	49	179	138	132	37.6%	79%

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	29	28.0	48.7	82.2
SF Bay	18	37.7	53.6	78.7
Central Coast	36	39.0	51.9	77.1
South Coast	70	37.0	56.9	88.8
Sacramento	93	28.0	50.3	83.2
San Joaquin	75	28.8	50.5	77.4
Tulare Lake	19	14.1	41.4	73.3
North Lahontan	9	20.6	43.3	70.6
South Lahontan	22	21.7	46.8	72.9
Colorado River Desert	23	47.4	67.9	89.5
Statewide Weighted Average	394	28.5	49.9	80.4

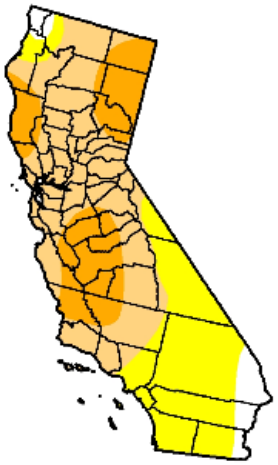
U.S. Drought Monitor

California

March 31, 2009
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	5.2	94.8	63.8	22.5	0.0	0.0
Last Week (03/24/2009 map)	5.2	94.8	63.8	22.5	0.0	0.0
3 Months Ago (01/06/2009 map)	1.7	98.3	88.2	41.3	2.8	0.0
Start of Calendar Year (01/06/2009 map)	1.7	98.3	88.2	41.3	2.8	0.0
Start of Water Year (10/07/2008 map)	0.0	100.0	95.9	55.0	0.0	0.0
One Year Ago (04/01/2008 map)	44.5	55.5	31.6	3.8	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dm

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Author: Mark Svoboda, National Drought Mitigation Center

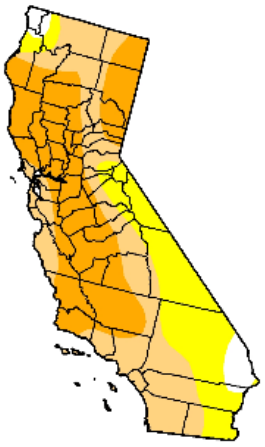
U.S. Drought Monitor

California

April 28, 2009
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	3.6	96.4	73.0	38.8	0.0	0.0
Last Week (04/21/2009 map)	3.6	96.4	73.0	38.8	0.0	0.0
3 Months Ago (02/03/2009 map)	0.8	99.2	89.4	54.7	19.0	0.0
Start of Calendar Year (01/06/2009 map)	1.7	98.3	88.2	41.3	2.8	0.0
Start of Water Year (10/07/2008 map)	0.0	100.0	95.9	55.0	0.0	0.0
One Year Ago (04/29/2008 map)	7.3	92.7	45.7	9.3	0.0	0.0



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http://drought.unl.edu/dm

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